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Special Topic 1: The A-bomb and Medical History

Defining *Hibakusha* in Postwar Japan: the Boundaries of Medicine and the Law

Shi Lin LOH

ABSTRACT: This brief essay concerns the history of the relationship between *hibakusha*, medical science, and the law in Japan. First, I give an overview of the context that led to the original 1957 law, and outline the lawsuits and points of contention it produced. I then examine the origins of medical science which formed the basis of the lawsuits, and conclude with some thoughts on the significance of these issues.

KEYWORDS: Hibakusha, medicine, science, law, compensation

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1. Introduction: Who Qualifies for Compensation?

Historian Takashi Fujitani, invoking the Foucauldian concept of biopolitics—the political mentality that seeks to administer life and populations—analyzes how the imperial Japanese state integrated Korean soldiers into its regime via the “right to make live”, using the language of inclusivity even as it discriminated against them. (Fujitani 2007: 13–16) In an analogous sense, the “right to make live” is also implicated in war compensation, which, as in other kinds of compensation agreements, distinguishes amongst categories of victims, and raises the question of how these normative criteria for compensation are established. On this issue, the *hibakusha* of Hiroshima and Nagasaki present a compelling case study, as detailed in Naono Akiko’s powerful analysis of compensation as an overarching problematic in *hibakusha* law (Naono 2011: 69–171).¹ This essay introduces some key aspects of the institutional history of Japan’s *hibakusha* relief law since the 1950s, when the legal status of a *hibakusha* was defined at the intersection of international and domestic law, medical science, and civilian activism. It summarizes how medical and scientific knowledge produced by international expert bodies has been used to define and delimit *hibakusha* illness, conferring legitimacy on certain symptoms and not others.

In 2007, a type of lawsuit specific to the aftermath of the atomic bombing of Nagasaki emerged. Its 395 plaintiffs belong to a category of atomic-bomb survivors officially called *hibaku taikensha*, a unique category of Nagasaki *hibakusha* created in 2002. *Hibaku taikensha* cannot qualify as official *hibakusha* as they were located outside of areas deemed directly affected by radiation exposure in the Nagasaki bombing. While Japanese law recognizes their propensity to suffer post-traumatic stress disorder related to atomic bombing trauma, they are considered at low risk of physical ailments and are not issued the official *hibakusha* handbook to receive medical welfare (Naono 2011: 139–144).²

The chief justice at the Nagasaki District Court ruled that only those calculated to have been exposed to 25 milisieverts or more of ionizing radiation from the atomic bombs qualified as having significant health risk, i.e. if they were exposed above 24 milisieverts of radiation, which is the present world average of natural background radiation (Mainichi Shimbun 2016). Calculations of the total amount of radiation exposure suffered by the plaintiffs based on their location at the time of the bombing was taken from data compiled by a survey team of Manhattan Project scientists, U.S. Army Air Force members and Japanese scientists. This

¹ Foreign nationality and country of residence have previously presented barriers to certification for *hibakusha*. Legal amendments enacted in 2008 now enable non-Japanese *hibakusha* or Japanese *hibakusha* living outside of Japan to apply from overseas for official status and the medical welfare it entails (MHLW 2005).

² Called the 被爆者健康手帳. See the official site of the Tōyūkai *hibakusha* support organization, “Hibakusha kenkō techō,” https://t-hibaku.jp/seido/01_techo.html (accessed July 10, 2018).

DEFINING HIBAKUSHA IN POSTWAR JAPAN

data was used by an expert advisor to the Nagasaki District Court, a local physician from Nagasaki (Mainichi Shimbun 2016).

In 1957, twelve years after the atomic bombings of Hiroshima and Nagasaki, the Japanese government established a law to provide compensation for *hibakusha* in the form of medical relief (House of Representatives 1957). Additional provisions and revisions in subsequent years covered an increasingly broader swathe of people under more inclusive guidelines. Yet the 1957 law's passage was neither straightforward nor inevitable. Following defeat in the Pacific War, the Japanese state had little incentive to create a legal framework to compensate the *hibakusha* of Hiroshima and Nagasaki. Struggles over *hibakusha* eligibility further implicate the issue of how medical and scientific knowledge is deployed by government officials to adjudicate the nature of the damage done to survivors' health, drawing boundaries between whose medical disabilities can or cannot be traced to the atomic bombs. Historical contingency, medical science and legal bureaucracy all played roles in creating systematic discrimination amongst victim-survivors.

2. The *Lucky Dragon* and the Cold War

Japanese domestic and international politics in the 1950s obscured the *hibakusha*, even as they shaped the filing of the 1955 lawsuit, and spurred the passage of the initial relief law in 1957. The most important of these is the infamous "Bikini Incident" of 1954, an event so named for the location of a U.S. hydrogen bomb test in the Marshall Islands codenamed Operation Bravo. On March 1, 1954, the ironically named *Lucky Dragon No. 5*, trawling for tuna in the Pacific, became a casualty of the Bravo test. The test's fallout zone extended beyond its original projected radius to the course of the *Lucky Dragon's* voyage. As a result, the boat was exposed to a shower of fallout, its catch was found to be heavily contaminated, and many of its crew displayed symptoms of radiation illness. Despite receiving medical attention, their 40-year old radio operator, Kuboyama Aikichi, died that September (Daigo Fukuryū Maru Heiwa Kyōkai 2014).

The medical ordeal of the *Lucky Dragon's* fishermen ignited a grassroots anti-nuclear movement that challenged the pro-nuclear trajectory of U.S.-Japan relations during the Cold War, with particular regard to America's role in the nuclear arms race and the promotion of nuclear energy's "peaceful" applications in Japan (Homei 2013). It also sparked the formation of Hidankyō (Japan Confederation of A- and H-Bomb Sufferers), the first and only national group of *hibakusha* activists dedicated to advocating for *hibakusha* assistance and compensation from the Japanese government. Faced with burgeoning citizen protest, the Japanese government quickly established institutions to oversee Japan's foray into nuclear energy generation and related research, joining the global campaign promoting the civilian uses of nuclear technology called "Atoms for Peace", as outlined by U.S. President Eisenhower in his

speech before the United Nations General Assembly in December 1953, and the summits that led to the establishment of the International Atomic Energy Agency in 1957 (IAEA 2017). Events of note in Japan's case include the passage of the Basic Law on Nuclear Energy in 1955, the formation of the Japan Atomic Energy Commission at the end of the same year, and the 1956 establishment of Japan's first nuclear reactor for research purposes at Tōkai-mura in Ibaraki Prefecture.

In short, *hibakusha* relief came about relatively late in the trajectory of Japanese state actions on nuclear issues. It took a backseat to the resolution of international fallout over the Bikini Incident, in the Cold War context of Japan's continued shelter under the American nuclear umbrella and nuclear energy production under the aegis of "Atoms for Peace".

3. The Origins of Atomic Bomb Lawsuits

In the wake of the Bikini incident, the impetus for bringing the issue of *hibakusha* compensation to the forefront of state consciousness stemmed from a lawsuit filed in 1955 at the Tokyo District Court by an Osaka-based lawyer, Okamoto Shōichi, and his colleague in Hiroshima, Matsui Yasuhiro. Okamoto and Matsui brought their suit on behalf of several *hibakusha* plaintiffs headed by Shimoda Ryūichi of Hiroshima. (Matsui 1986) The suit charged the Japanese government to compensate *hibakusha* plaintiffs and members of their families for damages suffered from the two atomic bombings. The central allegation charged that the dropping of the atomic bombs constituted an unlawful act by the U.S; since Japan's waiver of claims against the Allied powers under the 1951 Treaty of San Francisco negated the plaintiffs' ability to sue for damages in U.S., it consequently fell upon the government of Japan itself to pay damages to the plaintiffs (*Ryuichi Shimoda et al. V. The State* 1964).

Eight years later, in 1963, the court ruled that the atomic bombings did indeed violate international law, and hence, that the atomic bombings constituted indiscriminate aerial bombardment, prohibited by international rules on aerial warfare. However, the court dismissed the lawsuit, ruling that Japan's acceptance of the Treaty of San Francisco meant, in essence, that the *hibakusha* as individual Japanese nationals had no claim to damages under both international and Japanese domestic law (*Ryuichi Shimoda et al. V. The State* 1964; ICRC 2018).

Following the failure of the Shimoda lawsuit in 1963, many other *hibakusha* filed lawsuits in subsequent decades, seeking recognition and compensation in the form of medical welfare. Yamashita Kanehiko and his co-authors categorize these "atomic bomb lawsuits" 原爆裁判 into four main categories asking for: 1) national compensation, 2) recognition of atomic bomb syndrome, 3) recognition as *hibakusha*, and 4) refinements to the legal system of compensation (Yamashita et al. 2005: 54–55).

These efforts paid off, to some extent: *hibakusha* relief law underwent multiple amend-

DEFINING HIBAKUSHA IN POSTWAR JAPAN

ments over the following decades. In 1960 legislators established a special category of *hibakusha* to aid survivors located outside the immediate city environs of Hiroshima and Nagasaki; the requirements for this “special category” progressively eased to accommodate *hibakusha* exposed at further distances. A larger number of ailments were made eligible for medical relief (e.g. malignant neoplasms and endocrine disorders), and certified *hibakusha* with a household income below a certain threshold received a monthly allowance. Further amendments to the law in 1962, 1964 and 1965 continued relaxing the eligibility conditions for medical welfare, covering those who had entered Hiroshima and Nagasaki within 3 days of the bombings, and extending territorial coverage. In 1968, a Law on Special Measures for the Survivors of the Atomic Bombs provided allowances for extra services, including caregiving support for *hibakusha* 65 years old and above, single-mother households, and the physically disabled. This Special Measures law underwent annual revision from 1971–1974 to lower the age floor of eligible *hibakusha* from 65 to 45. Finally, in 1995, the Law on Assistance for Survivors of the Atomic Bombs abolished income threshold eligibility for the various categories of allowances, and provided a funerary allowance for bereaved families of *hibakusha* (MHLW 2012).

The above chronology of legislative amendments to the Medical Relief Law of 1957 culminated in its present form, since 1995, as the Atomic Bomb Survivors Assistance Law. In its current iteration, the Atomic Bomb Survivors’ Assistance Law comprises four categories of officially recognized *hibakusha* as listed in the following table (Table 1):

A core issue in the grassroots struggles to change the 1957 law appears in the category

Table 1: Categories of certifiable *hibakusha* (MHLW 2014, English translation by author)

Hibakusha category	Details
1. Direct exposure	People directly exposed in designated areas at the time of the atomic bombings in Hiroshima and Nagasaki. [place names omitted; see MHLW 2014 for details]
2. City arrivals	People who entered an area of about 2 kilometers from the hypocenter of the explosions within two weeks after the atomic bombings. (Addendum: for Nagasaki: until 08/23/1945; for Hiroshima until 08/20/1945)
3. Providers of services including assistance to injured <i>hibakusha</i> or workers who removed dead bodies	People in circumstances where their bodies were exposed to the effects of radiation from the atomic bombs during or after the atomic bombings.
4. Fetuses (children in utero)	People in utero for categories 1–3 of <i>hibakusha</i> . (Addendum: latest date of birth for Nagasaki applicants 06/03/1946; for Hiroshima applicants 05/31/1946)

1 and 2 definitions of certifiable *hibakusha*. These categories are defined by the distance at which the claimants were located during or in the early aftermath of the atomic bombings, which in turn affects the amount of radiation exposure they would have received. From the outset, medical compensation provided by the 1957 law was restricted to survivors suffering illnesses deemed to directly result from exposure to atomic bomb radiation, or for those whose ability to heal from non-related diseases had been compromised by radiation exposure from the same. This means that it was restricted to those who could prove they had been within a certain distance from the hypocenter of the bombs' explosions, even if the movement of radioactive materials through rain or wind could have exposed them at greater distances.

4. Defining *Hibakusha*: Medical Science as Sociotechnical Heuristic

The transformation of public attitudes and scientific views over a period of a century reflected the gradual recognition and then growing fear of the hazards of radiation and the protracted scientific debate over the risks of low-level exposure. ...There were no incontestable answers to the questions that were raised, partly because the scientific evidence remained inconclusive and partly because they were not strictly scientific matters. The result was the emergence of a sharp and sometimes bitter controversy that pitted scientists, public health professionals, and regulatory officials against one another and generated confusion, uncertainty and fear among members of the public who had no reliable way to evaluate the competing positions (Walker 2000: 2).

The above quote from Samuel Walker, an eminent historian of radiation protection measures in the U.S., encapsulates the fundamental problem with using scientific knowledge to determine how the biological effects of radiation exposure. Even at the present time, the effects on human health of exposure to comparatively low levels of radiation remains an unsettled question, although there is a broad consensus that any dose, no matter how low, increases the risk of cancer.³ The atomic-bomb lawsuits mentioned above occasionally refer to the medical knowledge and standards used by Japanese research institutes and advisory organs on nuclear science. It is thus useful to consider the context in which that medical science is produced given its role in Japanese court rulings on the *hibakusha* lawsuits. The

³ There is consensus in the frameworks used by international advisory organizations such as the International Commission on Radiological Protection (ICRP) and the International Atomic Energy Agency (IAEA), along with national organizations such as the National Council on Radiation Protection (NCRP) in the U.S. and the Japan Atomic Energy Agency (JAEA). They all use what is known as a linear no-threshold (LNT) model to assess the risks of radiation exposure, which assumes that the risk of cancer increases with any dose. The LNT, however, is challenged by some researchers who argue for a competing model known as radiation hormesis, which postulates that low doses of radiation are actually beneficial (Weber and Zanzonico 2017; Doss 2013).

DEFINING HIBAKUSHA IN POSTWAR JAPAN

Japanese government's view on the biological effects of ionizing radiation stems from medical science produced by researchers affiliated with organizations connected to the U.S. military, who worked with counterparts in Japan. This body of knowledge determined which symptoms were eligible for healthcare and medical treatment, and by extension, who qualified for what degree of state compensation.

Scientific knowledge that exposure to ionizing radiation is potentially hazardous has existed since the earliest usage of X-rays and radium (Kevles 1997). However, this area of research was relatively neglected from the start of the age of nuclear warfare, when extant knowledge about potential damage from radiation exposure was relegated to a secondary concern in the Manhattan Project and the American decision to use the atomic bomb (Malloy 2012). In 1948, the Atomic Bomb Casualty Commission, a U.S. body of scientific experts that worked closely with their Japanese counterparts, was given the task of collecting data on radiation exposure effects on the survivors in both cities. The first formal study, known as the Life Span Study (LSS) launched in 1950, two years before the conclusion of the U.S. occupation of post-WWII Japan (RERF 2016).

In order to understand the atomic bombs' impact on *hibakusha* health, ABCC required a dosimetry system to calculate retrospective estimates of radiation doses to individuals during or shortly after the bombings. An early attempt to create one occurred in 1956 when researchers at the Oak Ridge Nuclear Laboratory conducted the Ichiban Project. The Project sought to estimate the amount of neutron and gamma radiation received by the *hibakusha* exposed in their homes at the time of the bombings. It did so by detonating nuclear devices over Japanese-style wood-frame homes that sought to replicate typical homes in Hiroshima and Nagasaki (Hurst 1957).

The first iteration of an atomic bomb dosimetry system was possible only because the U.S. declassified equations designed by an Air Force officer that measured the amount of radiation at different distances from the bomb's hypocenter. Known as Tentative Dosimetry 1957 (T57D), it was created together with the data compiled from Operation Plumbbob, a series of U.S. nuclear tests conducted in Nevada in 1957, and information on the *hibakusha* compiled from the ABCC (Kerr 1998: 9). T57D contained various indeterminacies; ABCC did not adopt it, and it had limited application. In the 1960s, scientists at the Oak Ridge National Laboratory created a more comprehensive dosimetry system for use in the ABCC studies called the Tentative 1965 Dosimetry (T65D) system. T65D provided the first generally accepted dose estimates for *hibakusha*, and subsequent refinements using new computing software led to its successor systems, DS86 and DS02, which have been used in radiation protection issued by international expert bodies like the International Commission on Radiological Protection (ICRP 2007: 177–178). These systems are not perfect, as researchers have acknowledged, and may be revised yet again with the advent of new data and software (Kaul 1998: 38–40).

Dosimetry systems are also adopted by national research bodies in Japan who work with radiation-related sciences, especially the National Institute of Radiological Sciences (NIRS) and the Radiation Effects Research Foundation (RERF; heir to the ABCC). Researchers from such organizations are called to serve on a body of expert medical advisors to the Ministry of Health, Labor and Welfare, where they evaluate applications on meeting the eligibility criteria for atomic-bomb illness. In this version of the evaluative process, under the Assistance Law enacted in 1995, medical conditions eligible for atomic-bomb illness certification must meet two main criteria: that of “radiation-induced causality” 放射線起因性 and “medical necessity” 要医療性, the latter defined as “medical conditions requiring continuous care” 継続的な治療 (MHLW 2013: 4). These criteria are determined with respect to tables of medical and scientific data, including the dosimetry systems earlier mentioned, that are maintained by NIRS and RERF. Radiation-induced causality, in particular, is a problematic concept. The Ministry of Health, Labour and Welfare acknowledges in its latest set of guidelines that a degree of uncertainty exists in the process of establishing radiation-induced causality, and adopts a “range of proactive certification” 積極的に認定する範囲 that tries to account for medical histories, environmental factors and lifestyle patterns. However, it follows this up with the statement that certification still requires “proof enough to convince a regular person” 通常人が疑いを差し挟まない程度の証明, which seems to contradict the inclusive approach earlier mentioned (MHLW 2013: 3).

The knowledge produced by the expert bodies which the Japanese government cites may be accurate. However, fundamental difficulties arise with taking epidemiological measurements of which illnesses correspond to what degree of radiation exposure. These measurements pertain to a *population* of people exposed to radiation, which means that applying them to *individual* cases often leads to inconclusive results—i.e. a failure of eligibility to have specific symptoms or malaises recognized as stemming from exposure to radiation from the atomic bombings (Nihon Hidankyō 2002). Naono rightly critiques the Japanese government’s application of the causality principle as mechanistic and deviating from international standards of admitting the positive probability of radiation’s biological effects even at low doses (Naono 2011: 153–160).

5. Epilogue: Theorizing Compensation

Under Japanese law, the issue of who counts as a *hibakusha* and under what conditions is a complex process that places the burden of proof on the individual, relentlessly subjecting the survivors’ experiences to external evaluation by medical and legal authorities (Yoneyama 1999: 93–94; Naono 2011). They were not the only victim group that encountered resistance in laying claim to state compensation after the war; other groups like repatriates and landlords also needed to justify how their particular situation required support above

DEFINING HIBAKUSHA IN POSTWAR JAPAN

and beyond the normal welfare system (Orr 2001: 140). Faced with official reluctance to proactively address their needs, *hibakusha* adopted the tactic of using class-action lawsuits as a means to make demands on the state for recognition and repairs. However, compensation as a legal process requires a clear victim and clear perpetrator. *Hibakusha* are ineligible for substantive compensation because the perpetrators of the crimes that victimized them cannot be held legally accountable. Thus, contributions made by the Japanese government to their welfare are framed in terms of medical “support” or “relief” rather than compensation, suggesting state charity and beneficence instead of redress. Moreover, the terms that define their eligibility for victim status are framed in a set of contested phenomena, where plaintiffs and government cite experts who come to different conclusions. This creates a phenomenon that sociologist Youyenn Teo calls “differentiated deservedness”, where the state designates the maximum amount of support that a needy citizen may receive, and generates social categories by differentiating amongst people even within a particular social group. This runs the risk of dividing society along lines where some are seen as more deserving than others, instead of sharing a collective goal to improve communal welfare (Teo 2015: 88–89).

Struggles over which kind of *hibakusha* is deemed eligible for the maximum amount of state compensation continue to this day. In February 2017, the children of Hiroshima *hibakusha* (those born after the cut-off dates for in utero *hibakusha*; see category 4 of Table 2) sued the national government for amendment of the Assistance Law to provide them with comprehensive medical care and monetary compensation for individual plaintiffs. The Japanese government denies the existence of hereditary effects from the atomic bombings based on the lack of definitive studies. But as with other controversies over the unfinished, unsettled nature of the biological effects of ionizing radiation, the plaintiffs insist that the possibility of hereditary effects cannot be ruled out, and argue that the fear and stress they experience through the probability of someday developing a radiation-related disease qualifies them for support (Mainichi Shimbun 2017).

Hibakusha relief law shows that the legal mobilization of scientific knowledge drew boundaries on who qualified as a *hibakusha* of Hiroshima and Nagasaki based on physical geography, and prioritized administrative compliance rather than survivors' welfare. It also provides a useful perspective on scientific knowledge used to construct legal frameworks to compensate survivors of nuclear accidents. They also raise broader questions on how to define illness and health. Local doctors in Hiroshima who care for *hibakusha* under the law have criticized the focus on dosimetry standards and methodology to assess the health of individual *hibakusha*. One such physician, a Dr. Saitō (whose main workplace at a Fukushima hospital presents a tragic resonance in the wake of the 3.11 disasters), observes that as the atomic bombings continue receding into the past, the factors which create *hibakusha* illnesses do not only involve attempts to create a record of their radiation exposure and dose. Other kinds of socio-medical histories are needed to diagnose their condition (Nihon

Hidankyō 1988: 34). Hopefully, *hibakusha* law will continue to evolve, reflecting how medical science is gradually broadening the definition of health to include mental and emotional well-being, and emphasizing how it is consequent on the socio-economic situations faced by sick individuals and communities (Huber et al. 2011; Weitz 2013).

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SHI LIN LOH

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